

## PATENT COOPERATION TREATY

## PCT

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

REC'D 16 MAY 2007

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Applicant's or agent's file reference 030216WO	<b>FOR FURTHER ACTION</b>		See Form PCT/IPEA/416
International application No. PCT/US04/15206	International filing date (day/month/year) 14 May 2004 (14.05.2004)	Priority date (day/month/year) 16 May 2003 (16.05.2003)	
International Patent Classification (IPC) or national classification and IPC IPC: <b>H04Q 7/38</b> ( 2006.01); <b>H04L 12/56</b> ( 2006.01) USPC: 370/218;455/414.3			
Applicant QUALCOMM INCORPORATED			
<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of <u>6</u> sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input type="checkbox"/> (sent to the applicant and to the International Bureau) a total of ___ sheets, as follows:</p> <p style="margin-left: 40px;"><input type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p style="margin-left: 40px;"><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in electronic form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p> <p>4. This report contains indications relating to the following items:</p> <p><input checked="" type="checkbox"/> Box No. I Basis of the report</p> <p><input type="checkbox"/> Box No. II Priority</p> <p><input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p><input type="checkbox"/> Box No. IV Lack of unity of invention</p> <p><input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p><input type="checkbox"/> Box No. VI Certain documents cited</p> <p><input type="checkbox"/> Box No. VII Certain defects in the international application</p> <p><input type="checkbox"/> Box No. VIII Certain observations on the international application</p>			
Date of submission of the demand 15 November 2004 (15.11.2004)		Date of completion of this report 29 March 2007 (29.03.2007)	
Name and mailing address of the IPEA/ US Mail Stop PCT, Attn: IPEA/US Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (571) 273-3201		Authorized officer Andrew Caldwell Telephone No. 571-272-3581	

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/US04/15206

**Box No. I Basis of the report**1. With regard to the **language**, this report is based on:

- ☒ the international application in the language in which it was filed.
- ☐ a translation of the international application into English, which is the language of a translation furnished for the purposes of:
- ☐ international search (under Rules 12.3 and 23.1(b))
- ☐ publication of the international application (under Rule 12.4(a))
- ☐ international preliminary examination (under Rules 55.2(a) and/or 55.3(a))

2. With regard to the **elements** of the international application, this report is based on (*replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report*):

- ☒ the international application as originally filed/furnished
- ☒ the description:  
pages 1-16 as originally filed/furnished  
pages\* NONE received by this Authority on \_\_\_\_\_  
pages\* NONE received by this Authority on \_\_\_\_\_
- ☒ the claims:  
pages 17-30 as originally filed/furnished  
pages\* NONE as amended (together with any statement) under Article 19  
pages\* NONE received by this Authority on \_\_\_\_\_  
pages\* NONE received by this Authority on \_\_\_\_\_
- ☒ the drawings:  
pages 1/7-7/7 as originally filed/furnished  
pages\* NONE received by this Authority on \_\_\_\_\_  
pages\* NONE received by this Authority on \_\_\_\_\_
- ☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing.

3. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, Nos. \_\_\_\_\_
- ☐ the drawings, sheets/figs \_\_\_\_\_
- ☐ the sequence listing (*specify*): \_\_\_\_\_
- ☐ any table(s) related to the sequence listing (*specify*): \_\_\_\_\_

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, Nos. \_\_\_\_\_
- ☐ the drawings, sheets/figs \_\_\_\_\_
- ☐ the sequence listing (*specify*): \_\_\_\_\_
- ☐ any table(s) related to the sequence listing (*specify*): \_\_\_\_\_

\* If item 4 applies, some or all of those sheets may be marked "superseded."

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.  
PCT/US04/15206**Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

## 1. Statement

Novelty (N)	Claims <u>1-49</u>	YES
	Claims <u>NONE</u>	NO
Inventive Step (IS)	Claims <u>NONE</u>	YES
	Claims <u>1-49</u>	NO
Industrial Applicability (IA)	Claims <u>1-49</u>	YES
	Claims <u>NONE</u>	NO

## 2. Citations and Explanations (Rule 70.7)

Please See Continuation Sheet

**Supplemental Box**

In case the space in any of the preceding boxes is not sufficient.

Continuation of:

**V. 2. Citations and Explanations:**

1. The present application contains nine independent claims: Four method claims and five system claims.

The independent claims have been drafted in such a way that they contain different versions of what appears to be a single general inventive concept.

In order to make this international preliminary report on patentability less complex, it has been decided to issue this international preliminary examination for the said single general inventive concept, covering hence similarly all the independent claims.

2. The present application does not meet the criteria of Article 33(1) PCT, because the subject matter of claims 1-49 does not involve an inventive step in the sense of Article 33(3) PCT.

3. The following documents are referred to in the communication:

D1 : P. KARN, C. PARTRIDGE: "Improving Round-Trip Time Estimates in Reliable Transport Protocols" PROCEEDING OF SIGCOMM '87, vol. 17, no. 5, October 1987 (1987-10), pages 1-9, XP002304319.

D2 : US 5,943,480 A (NEIDHARDT ARNOLD L) 24 August 1999 (1999-08-24).

4. Independent claim 1

Document D1 discloses (the references in parentheses referring to document D1):

**Supplemental Box**

a method for determination of link latency in a communication network having a link, the method comprising steps of:

upon commencement of a subsequent registration attempt, initiating a current round trip estimation process having a start time and an end time (page 68, lines 1-5);,

setting a retry timer equal to the sum of a predetermined backoff period and the current estimated network delay

if the retry timer expires before the end time of the potentially concurrent current round trip estimation process, updating the predetermined backoff period and

at the end of the subsequent registration, resetting the current estimated delay equal to the difference between the end time of the current round trip estimation process and the start time of the current round trip estimation process (page 69, paragraph 2.2).

The technical feature of determining an unloaded network delay, and using it as the first estimate for the round trip delay, is not specifically mentioned in document D1.

Said technical feature is, however, mentioned in document D2 (e.g. column 5, lines 14-20; column 8, lines 32-37, Claims 4 and 10), which falls in the same field of monitoring the communications of TCP-based networks.

A person skilled in said technical field of monitoring the communication of TCP-based networks would surely be aware of documents D1 and D2, and would readily combine, when faced with the problems of a lacking an initial round trip estimate, the initial round trip evaluation method of document D2 and with the Retransmission Time-Out calculation method of document D1, and in doing so would automatically arrive at the method of independent claim 1.

The subject matter of independent claim 1 does not, therefore, involve an inventive step in the sense of Article 33(3) PCT.

5. Independent claims 8, 16, 17, 23, 32, 43, 48, and 49 appear to be method and system claims, the subject matter of which correspond with the subject matter of independent claim 1. Therefore the same rejections, as indicated above at 4 for independent claim 1, apply also to independent claims 8, 16, 17, 23, 32, 43, 48, and 49.

The subject matter of independent claims 8, 16, 17, 23, 32, 43, 48, and 49 does not, therefore, involve an inventive step in the sense of Article 33(3) PCT.

6. As indicated above at 1, it is considered that said independent claims 1, 8, 16, 17, 23, 32, 43, 48, and 49 related to the same single general inventive concept. This assumption allows for the analysis above at 5 to be made.

In case the Applicant disagrees with this assumption, the Applicant is kindly invited to provide reason therefor backed up with convincing argumentation.

At this stage, the Applicant is also reminded, that such argumentation can be later used to trigger non-unities in the present application.

7. It is acknowledged, that some of the independent claims mention features (e.g. registration, mobile IP, and home agent) which are not specifically mentioned in document D1 nor D2.

These features are, however, considered as not providing major contributions over the prior art.

In case the Applicant considers they do provide significant contribution over the prior art, the Applicant is kindly invited to provide reason therefor backed up with convincing argumentation.

8. Dependent claims 2-7

Dependent claims 2-7 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of inventive step.

The subject matter of dependent claims 2-7 does not, therefore, involve an inventive step in the sense of Article 33(3) PCT.

9. Dependent claims 9-15

Dependent claims 9-15 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of inventive step.

The subject matter of dependent claims 9-15 does not, therefore, involve an inventive step in the sense of Article 33(3) PCT.

**Supplemental Box**

## 10. Dependent claims 18-22

Dependent claims 18-22 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of inventive step.

The subject matter of dependent claims 18-22 does not, therefore, involve an inventive step in the sense of Article 33(3) PCT.

## 11. Dependent claims 24-31

Dependent claims 24-31 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of inventive step.

The subject matter of dependent claims 24-31 does not, therefore, involve an inventive step in the sense of Article 33(3) PCT.

## 12. Dependent claims 33-42

Dependent claims 33-42 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of inventive step.

The subject matter of dependent claims 33-42 does not, therefore, involve an inventive step in the sense of Article 33(3) PCT.

## 13. Dependent claims 44-47

Dependent claims 44-47 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of inventive step.

The subject matter of dependent claims 44-47 does not, therefore, involve an inventive step in the sense of Article 33(3) PCT.